



City of Seattle

Gregory J. Nickels, Mayor

**Department of Planning and Development**

D. M. Sugimura, Director

**CITY OF SEATTLE  
ANALYSIS AND DECISION OF THE DIRECTOR  
OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT**

**Application Number:** 3009781

**Applicant Name:** Permits NW for the University of Washington

**Address of Proposal:** 1701 NE Grant Lane (filed under: 4000 15<sup>th</sup> Ave. N.E.)

**SUMMARY OF PROPOSED ACTION**

Land Use Application to allow a 4-story, 92,000 sq. ft. laboratory building with a future 5-story 80,000 sq. ft. addition within the University of Washington (a major institution). Project results in net a loss of five parking spaces and 33,510 cu. yds. of grading. Existing structures (Cunningham Hall) to be relocated and (Johnson Hall Annex) to be demolished. Draft Supplemental Environmental Impact Statement (dated March 2009) has been prepared by University of Washington.

The following approval is re required:

**SEPA - to approve, condition pursuant to 25.05.660.**

**SEPA DETERMINATION:** ☐ Exempt ☐ DNS ☐ MDNS ☒ EIS\*

☒ DNS with conditions

☐ DNS involving non-exempt grading, or demolition, or involving another agency with jurisdiction.

\* The University of Washington Capital Projects Office prepared a Draft Supplemental Environmental Impact Statement (DEIS), published March 2009. The University published the Final SEIS July 2009.

## **BACKGROUND INFORMATION:**

### **Site and Area Description**

This project is located in the University of Washington (UW) Central Campus. The development site is identified as 25C of the Campus Master Plan-Seattle 2003 (CMP). The site is the current location of Cunningham Hall and the Johnson Hall Annex. The site for the proposed Molecular Engineering Facility is generally located south of NE 40<sup>th</sup> Street, west of Johnson Hall, north of Okanogan Lane and east of Stevens Way West. As part of the Proposed Action, Cunningham Hall would be relocated to a new site at the south end of Parrington Lawn, west of Parrington Hall. Moving Cunningham Hall to Parrington Lawn was determined by DPD to be a Minor Amendment to the Campus Master Plan (CMP) in Code Interpretation Number 09-001.

### **Project Description**

The project consists of two phases: Phase 1 and Phase 2. According to the DSEIS, Phase 1 includes the relocation of Cunningham Hall, the demolition of the Johnson Hall Annex and construction of a new four-story 92,000 square foot building. Phase 2 includes the construction of a new five-story 80,000 square foot structure located immediately north of the Phase 1 building. No new parking would be required or provided.

According to plans, Phase 1 and 2 comprise a total of 172,000 square feet. Taken together the maximum height of the structure would be approximately 105 feet tall plus rooftop appurtenances. The site is located in the Major Institution Overlay (MOI) that allows base heights up to 105 feet.

The project includes relocation of Cunningham Hall to the southern edge of Parrington Lawn. The University of Washington requested a minor plan change to create a new development site which was approved as a Minor Amendment to the CMP by the DPD Interpretation No. 09-001.

Five parking spaces in parking lot C7 would also be eliminated.

Grading for the project includes: Phase 1 approximately 2,500 cubic yards of cut material and 1,500 cubic yards of fill material for a net difference of approximately 1,000 cubic yards of material to be removed from the site; Phase 2 would require excavation of approximately 2,600 cubic yards of cut material and approximately 1,520 cubic yards of fill material for a net difference of approximately 1,000 cubic yards of cut material to be removed from the site. The project involves removal of up to 11 trees on the site. Retained trees would include three Cedars, two Chestnuts, two Locusts, and one Poplar. The 11 trees to be removed include five poplars, along Stevens Way W. These Poplars are reaching the end of their normal life space. In addition four Crabapple trees located along Okanogan Lane, and two conifers (Cedar and Douglas fir) located between the existing Cunningham Hall and Johnson Hall Annex buildings and the Catalpa tree located on the north portion of the site. Review of tree descriptions provided in the DEIS and on plan sets indicates that no trees which would qualify as exceptional trees in DPD Director's Rule 16-2008 are expected to be removed or damaged.

The UW anticipates that construction of Phase 1 is planned to begin in 2009 with occupancy anticipated in 2012. Construction of Phase 2 would follow at some point in the future subsequent to completion of the Phase 1 building.

### **PUBLIC COMMENTS**

The Notice of Application for the project was published by DPD on March 26, 2009. The required public comment period ended April 8, 2009. No comments were made to DPD.

Seven comment letters were received by the University of Washington commenting on the DSEIS. These letters and written responses to them are found in Chapter 4 of the FSEIS. One letter, signed by Mathew Fox, co-chair of the City-University Community Advisory Committee (CUCAC) expresses concern over the loss of contiguous open space which would result from relocation of Cunningham Hall onto Parrington Lawn and over the potential precedent for new buildings in existing open space areas of the campus. Other letters were received by faculty members of the University. They indicated concerns about construction phase impacts of the proposal to other users of the campus and one took issue with the planning decisions made by the University to build the Molecular Engineering Building in the location chosen and about the new location chosen for Cunningham Hall.

### **ANALYSIS-SEPA**

The initial disclosure of the potential impacts from this project was made in the Draft Supplemental Environmental Impact Statement (DSEIS) issued by the University of Washington in March of 2009 and in the Final Supplemental Environmental Impact Statement (FSEIS) issued in July of 2009. The information in the checklist, the supplemental information submitted by the applicant, and the experience of the lead agency with the review of similar projects form the basis for this analysis and conditioning decision.

The SEPA Overview Policy (SMC 25.05.665D) clarifies the relationship between codes, policies and environmental review. Specific policies for each element of the environment, certain neighborhood plans, and other policies explicitly referenced may serve as the basis for exercising substantive SEPA authority.

The Overview Policy states, in part, "Where City regulations have been adopted to address an environmental impact, it shall be presumed that such regulations are adequate to achieve sufficient mitigation," subject to some limitations. Under such limited circumstances (see SMC 25.05.665.D.1-7), mitigation may be considered by the Department.

### **Short-term Impacts**

The project is likely to have short-term adverse, construction-related environmental impacts with respect to vegetation, earth, noise, air, water quality, traffic, and pedestrian circulation. No other elements of the environment appear likely to be adversely affected, and no other elements have been identified in the Supplemental EIS.

Air, Earth, and Water. The project is likely to cause some minor soil erosion from grading and other site work while the earth is exposed. These include decreased air quality due to dust and other particulates produced by construction equipment and operations, and tracking of mud and dirt onto adjacent streets by construction vehicles. These air and earth impacts are expected to be minor in scope and would be limited to the period of site preparation, estimated to be about four months. Several adopted City codes and ordinances provide adequate mitigation. The Street Use Ordinance provides for watering the streets to suppress dust; the Stormwater, Grading and Drainage Control Code provides for mitigation of earth impacts related to grading and excavation, such as soil erosion and runoff and the Seattle Building Code provides for appropriateness of construction measures in general. (In a separate section below, this analysis addresses truck traffic associated with construction activities.)

According to the project's DSEIS, Phase 1 involves approximately 2,500 cubic yards (cu. yd.) of cut material and 1,500 cu. yd. of fill material. Assuming excavated soils can be stored on-site and used for fill material, approximately 1,000 cu. yd. of compacted cut material would be hauled from the site. With a 20 percent expansion rate, and assuming 22 cu. yd. capacity per truck, this would result in approximately 110 excavation truck trips generated to and from the site by Phase I of the project. Phase 2 would require excavation of approximately 2,600 cu. yd. of cut material and approximately 1,520 cu. yd. of fill material for a net difference of approximately 1,000 cu. yd. of cut material to be removed from the site. Based on the assumptions above regarding soils storage on site, an expansion rate of 20 percent and truck capacity, this would result in approximately 116 excavated truck trips generated to and from the site.

Soil stabilization will be assured by compliance with the Stormwater, Grading and Drainage Control Code, and the Building Code. Further, Director's Rule 2000-16 was developed to apply Best Management Practices (BMP's) to prevent erosion and sedimentation from leaving construction sites or where construction will impact receiving waters. The implementation of Best Management Practices, as contained in the DR 2000-16, is a standard requirement for permit approval.

Construction will result in localized, short-term increases in particulate and carbon monoxide associated with the removal of existing pavement, excavation, grading, soil compaction and operation of heavy trucks and smaller equipment. On-site activity and periodic traffic delays on adjacent streets could contribute to slight increases in localized vehicle emissions of carbon monoxide and nitrogen dioxide. It is not expected that increased suspended particulates or carbon monoxide emissions would cause violation of any local ambient air quality standards.

Construction activities including worker commutes, truck trips, the operation of construction equipment and machinery, and the manufacture of the construction materials themselves result in increases in carbon dioxide and other greenhouse gas emissions which adversely impact air quality and contribute to climate change and global warming. While these impacts are adverse, they are not expected to be significant due to the relatively minor contribution of greenhouse gas emissions.

Noise. Short-term noise from construction would be generated during working hours. Noise levels during construction would be expected to comply with University standards and the City of Seattle Noise Ordinance. Potential mitigation measures such as sound walls, location of power equipment and specifications for less invasive back up alarms and mufflers are identified in the SEIS. These measures will need to be implemented as necessary to meet the requirements of the Seattle Noise Ordinance and may be used, at the University's discretion, to obtain a higher degree of mitigation than required.

Circulation and Traffic. Pedestrian and bicycle routes would be temporarily affected by construction. Most likely, the east side of Stevens Way West and the north side of Okanogan Lane (University of Washington streets) would be closed during construction. Temporary bicycle and pedestrian routes are expected to be in effect for the duration of the Phase 1 and 2 construction period. Bicycle parking would also be temporarily relocated to near the site. Some automobile parking spaces on or near the site would be accommodated by parking lots located in vicinity of the site, including the Central Plaza garage.

The University of Washington and the contractor for the project will prepare a construction traffic plan for workers and construction vehicles. This plan shall be submitted to DPD prior to issuance of a construction permit. The plan shall outline delivery routes for truck trips to minimize disruption to traffic flow on adjacent streets and roadways, including appropriate signage, flaggers, route definitions, flow of vehicles and pedestrians during construction. The plan shall identify truck and construction equipment circulation routes between the site and regional routes such as I-5 or SR 520. The plan shall require delivery trucks and material transportation trucks to avoid P.M peak traffic periods on City streets.

Parking. There is both structured parking and surface parking located on campus within several blocks of the project site. These facilities would serve as construction-worker parking and parking for any dislocated parking permit holders.

Greenhouse Gases. Construction activities including construction worker commutes, truck trips, the operation of construction equipment and machinery, and the manufacture of the construction materials themselves result in increases in carbon dioxide and other greenhouse gas emissions which adversely impact air quality and contribute to climate change and global warming. While these impacts are adverse, they are not expected to be significant due to the relatively minor contribution of greenhouse gas emissions from this project

### **Long-term Impacts**

The following long-term or use-related impacts were identified in the DSEIS and supporting documents: plants and animals, historic resources, transportation, environmental health, aesthetics and land use. Elements of the environmental not discussed below are not adversely affected and/or are adequately mitigated by existing codes and ordinances and/or mitigating components of the proposal itself.

Plants and Animals. A total of 20 mature trees were evaluated on the site, including five conifers and 15 deciduous trees. Eight trees would be retained on the site, primarily located to the north and east of the proposed facility. Retained trees would include three Cedars, two Chestnuts, two Locusts, and one Poplar. Construction of the facility would result in the removal of 11 trees on the site, including five Poplar trees located along Stevens Way W (it should be noted that because the Poplars along Stevens Way W are reaching the end of their normal life span, these trees might be removed without the project), four Crabapple trees located along Okanogan Lane, and two conifers (Cedar and Douglas Fir) located between the existing Cunningham Hall and Johnson Hall Annex buildings.

As mitigation, the DSEIS identifies the replanting of approximately 24 new large deciduous and evergreen trees on the site, including five new trees along Stevens Way W to replace those removed as part of construction. In addition, new landscaping, including shrubs, perennials, groundcover, and lawn would be planted on the site.

DPD considers the identified measures to be sufficient, and determines that no further mitigation is required. The DSEIS identifies no impacts to animals/endangered species warranting further mitigation.

Environmental Health. The DSEIS describes in general that the proposed project would include the use of potentially hazardous materials associated with laboratory research. The use of such material could potentially result in hazardous gases or fumes as a result of laboratory use. The UW has identified mitigation measures, such as; the storage and use of hazardous material associated with the proposed project would be managed in accordance with the *University of Washington's Environmental Health and Safety Laboratory Design Guide* and the *University of Washington Laboratory Safety Manual*. The storage of hazardous materials, including chemicals and compressed gases would comply with the City of Seattle Fire Code for Group "B" occupancy and typical for a higher educational research laboratory building with wet labs, dry labs and instrumentation laboratory spaces. DPD considers the proposed mitigation to be adequate in this regard.

Land Use Patterns. The DSEIS outlines direct impacts and the project's relationship to surrounding uses. This involves the conversion of the existing surface parking and landscaped areas. The intensity of the proposed new use and its interaction with existing surrounding uses conforms to the framework of the Campus Master Plan and the 1998 City-University Agreement, as well as the City of Seattle's Comprehensive Plan and the Land Use Code.

Noise. The DSEIS notes that the City of Seattle's noise ordinance applies to receiving property lines and does not apply within the University Campus. It further states that new noise sources have the potential to exceed the more stringent nighttime noise limits. Through identified mitigation measures (sound attenuation enclosures, silencers at vent louvers, and low-noise exhaust fans, among others), the DSEIS determines that operational noise levels should be within prescribed limits, on and off campus. DPD concludes that no further mitigation is warranted in this regard.

Aesthetics. The DSEIS identifies points from which the project will be visible on the campus. The project is located in the Central Campus area. This area is generally characterized by academic, student support, and administrative buildings, open space areas and pedestrian/vehicular circulation routes. The project does not adversely impact any protected views. DPD concludes that mitigation is not warranted in this regard.

Light and Glare. Shadows to nearby sites and adjacent open spaces are not likely to result in significant impacts. Lighting condition surrounding the facility is typical of an academic environment. The new facility would add new light and glares sources to the site in the form of interior and exterior building lighting, outdoor lighting for pedestrian visibility/walkways and loading dock functions and vehicular traffic. Light would be generated by stationary sources such as exterior building fixtures, indirect light from interior building fixtures, and pedestrian scale lighting along walkways. The lighting design system is designed to minimize impacts to offsite uses and enhance pedestrian circulation and safety on the site. Light fixtures will be shielded downwards to reduce light spillage and light impacts to adjacent uses. Interior lights would be typical of other educational/research buildings, and would not represent a major increase in ambient light. The project could result in solar glare, mitigated by landscaping, incorporation of building material with low reflectivity, and windows shaded from direct sunlight. As proposed, DPD concludes that no further mitigation is warranted.

Transportation. The DSEIS analyzes transportation impacts to vehicle circulation, traffic safety, transit services, pedestrian and bicycle circulation and parking. For nearby intersections, traffic impacts resulting from the project's long term (operational) use appear to be negligible at peak hours (DSEIS page 3.2- and Table 3.2-2).

Pedestrian pathway, sidewalks, and bicycle pathways are provided throughout campus. There are sidewalks along both sides of Stevens Way W and on the northwest side of Okanogan Lane. The project will include 57 covered and 38 secure bicycle parking spaces. This quantity will be sufficient for both the new demand and replacement of displaced bicycle parking.

The DSEIS projects that available parking supply will be sufficient to meet project-generated parking demand. Existing parking utilization counts show that there is adequate parking availability in north parking lots and the Central Plaza Garage near the proposed project, particularly on level C3 which showed the lowest utilization. Percent utilization ranges between 76% and 84%.

Considering the analysis, DPD concludes that no further mitigation for long-term traffic and parking impacts is warranted.

Historic Resources The site for the proposed project is located within several significant campus structures:

- *Cunningham Hall*, built in 1909, is located on the western portion of the proposed site.
- *Johnson Hall Annex*, building in 1917, is located on the eastern portion of the proposed site.

- *Johnson Hall*, built in 1930, is located east of the site, south of Grant Lane.
- *Architecture Hall*, built in 1909, is located immediately west of the site, on the west side of Stevens Way W.
- *Gerberding Hall*, built in 1949, is located to the northeast of the site, north of Grant Lane.
- *Chemistry Library*, built in 1957, is located south of the site, on the east side of Stevens Way W.

The project proposes to relocate Cunningham Hall and the following building and features/open space include:

- *Parrington Hall*, building in 1902, is located north of the site for Cunningham Hall, on the north side of George Washington Lane.
- *Parrington Lawn*, green space located north of Parrington Hall and west of Memorial Way.

Both Cunningham Hall and Johnson Hall Annex are located on the project site. Neither building is included on city, state or federal historic register listings. Cunningham Hall is identified as an important historic feature of the campus in the Campus Master Plan (*CMP-Seattle 2003*), however Johnson Hall Annex is not identified a historically important building.

Cunningham Hall was planned and built for the Alaska Yukon Pacific Exposition in 1909 and originally called the Washington State Women's Building. The building, a 5,000 square-foot, two-story wood-frame structure, was one of seven constructed for the fair that were intended to remain on the UW campus at the close of the Exposition. It was designed by a well-known Seattle architecture firm, Saunders and Lawton, and had a construction cost of slightly over \$12,000. Cunningham Hall served as a reception and hospitality site during the fair and also contained the women's exhibit with displays dedicated to "woman's work and handicraft," including embroidery, lace work, paintings, decorated china, Native baskets and blankets. The DSEIS contains information on Johnson Hall Annex and other proximate buildings in section 3.1.

Rather than demolish such a significant structure the University proposed to relocate Cunningham Hall. The relocation site is located along the southern edge of Parrington Lawn. This area of Central Campus is generally characterized by the pillared formal entrance to campus at NE 45<sup>th</sup> Street and Memorial Way, tree-lined streets, green open spaces and academic buildings. Parrington Hall was built in 1902 as the second classroom building built on campus and was originally called the Science Building. The architects were Josenhans and Allen. The exterior wall and interior walls on the first and second floors are made of brick, and all other walls and floors in the building are made of wood. The rear wing may have been used as a museum at one time. In 1931, the entire interior was remodeled and the building was renamed Parrington Hall at that time, in honor of V.L. Parrington an early English instructor at the campus. Parrington Lawn is a six-acre open space located on the north and west of Parrington Hall and is also known as the Campus Green. Historically, Parrington Lawn as an open space has evolved over time, rather than being a specifically designated open space area. The area first



appears in the Regents Plan of 1915 by the campus architects Bebb and Gould. This open space area consists of lawn, mature trees and paved pedestrian paths that have historically traversed the area to converge at NE 42<sup>nd</sup> Street. This area is recognized in the *CMP-Seattle 2003* as an “important passive recreational area” on the campus. The lawn also forms a popular pedestrian connection between the campus and retail shops and restaurants along University Way NE (the “Ave”) which is located approximately one block west of the campus. The lawn has also been recently included as one of eight campus mass assembly areas that are part of the University’s emergency evacuation plan.

The proposed building site was chosen because it was determined to best accommodate the technical needs of the new facility, particularly the ultra-low levels of native ground vibration that are necessary for the facility. Retaining Cunningham Hall in its present location would reduce both the overall and ground contact space available for the new facility, and limit the ability of the new facility to achieve academic and research objectives, and increase site development costs. The new facility would also be larger in size and scale than Cunningham Hall, diminishing the aesthetic value of leaving the older building in place.

Moving the building is not a preferred preservation approach but at times it may be the only alternative to demolition. Generally, moving is considered as a last resort because it unavoidably destroys some of the historic fabric and lessens the historic integrity of the building. Moving the building would result in a negative impact on its historic integrity, in both a material and contextual sense, because the building would be disassociated from the AYP portion of the campus, thereby losing part of its historical context. In this case, much of the historical context is no longer in existence and consequently the loss of context is lessened. Retaining Cunningham Hall in its current location and building a sizable, modern research facility around it would also result in a loss of historic context.

Temporary impacts would be associated with the moving of Cunningham Hall. However the building will be moved on University property, on a weekend and when school is not in session.

Once Cunningham Hall is relocated to Parrington Lawn, no long-term adverse impacts to Parrington Hall or Parrington Lawn are expected. A portion of Parrington Lawn would be lost to accommodate Cunningham Hall. The proposed location was chosen in order to preserve the historic open space of Parrington Lawn, preserve the character and visual relationship of Parrington Hall, and minimize impact to the existing grove of trees. The project would only minimally affect the use of the lawn as an assembly area.

The DSEIS includes the following mitigating measures for potential historic resource impacts which DPD understands are part of the project proposal and will be implemented by the University:

Cunningham Hall would be relocated to the Parrington Lawn site, approximately 1,100 feet to the north, on the north side of George Washington Lane, near Parrington Hall. Additional measures to strengthen the link between the building and the record of the 1909 Exposition include:

- Restoration of the original finishes and reopening some of the first floor interior spaces as a way to renew the association between the building and the AYP.
- A durable exterior display providing graphics and interpretive text about Cunningham Hall should be provided as part of the new project.
- The building's history should be provided on the UW history website, or on a public website such as HistoryLink.org, the online encyclopedia for Washington State history. This would help educate visitors about the historical significance of the building and the 1909 exposition that facilitated establishment of the early campus.
- To preserve the established open space of Parrington Lawn and to eliminate any impacts to Parrington Hall, Cunningham Hall should be located near the south perimeter of the Lawn, near George Washington Lane.
- Preserve Cunningham Hall's formal relationship to the street by maintaining a frontal orientation with a perpendicular walk and steps leading up from the street to the building's main entry.

Review of potential impacts to historic resources was conducted within the University and included referral to the State Historic Preservation Office, review by the University Architectural Commission and University Landscape Advisory Committee, review by the Student Senate, the Faculty Senate and the Board of Regents. The proposed action has been determined to be an appropriate balance of historic and broader University needs and interests.

### **CUCAC Review**

CUCAC (City University Community Advisory Committee) has reviewed the project and has made comments which are incorporated in a comment letter found in the FSEIS and which are summarized in the Public Comments section above.

### **DECISION – SEPA**

DPD has analyzed the proposal as described in plans provided by the University, has reviewed the Draft and Final Supplemental Environmental Impact Statements issued by the University and exercises substantive SEPA authority to condition the issuance of construction permits for the proposed development.

DPD approved the proposal subject to the conditions listed below.

### **CODE REQUIREMENTS**

A Notice of Intent must be filed with the Puget Sound Clean Air Agency prior to demolition of buildings.

## **CONDITIONS – SEPA**

### **Prior to Construction Permit Issuance (including grading, demo and construction)**

1. The University of Washington will prepare a construction traffic plan for workers, for review and approval by DPD. The plan shall outline delivery routes for truck trips to minimize disruption to traffic flow on adjacent streets and roadways, including appropriate signage, flaggers, route definitions, flow of vehicles and pedestrians during construction. The plan shall identify truck and construction equipment circulation routes between the site and regional routes such as I-5 or SR 520. Truck traffic related to the construction activity should avoid peak periods of 7:00 – 9:00 AM and 3:00 -6:00 PM, Monday – Friday.

### **Before and During Construction**

The following condition(s), to be enforced during construction will be posed in a location on the property line that is visible and accessible to the public and to construction personnel from the street right-of-way. If more than one street abuts the site, conditions will be posed at each street. The conditions will be affixed to placards prepared by DPD. The placards will be issued along with the building permit set of plans (or with the demolition permit if it is issued separately). The placards will be laminated with clear plastic or other weatherproofing material and will remain in place for the duration of construction. It is the contractor's responsibility to ensure that the subcontractors are informed of the conditions listed below.

2. The University of Washington and/or other responsible parties shall implement the approved construction traffic plan.
3. The University of Washington and/or other responsible parties shall implement the mitigations identified in the arborist's report by Tree Solutions, Inc., dated May 27, 2008. Mitigations are reiterated below:

#### **Pre-Construction Mitigation Measures**

- Direct the project arborist to place tree protection fencing as per arborist report, at the Tree Protection Zone (TPZ), before any demolition or construction occurs.
- The arborist may also require chain link fencing or plywood boxing around trees in certain high traffic areas. All fencing shall not be moved and is to be left in place until the completion of the project.
- Within the TPZ no parking, materials storage, dumping or burning is allowed.
- When removing trees outside the TPZ determined to be unacceptable for retention, use methods such as directional felling to avoid damage to trees and other valuable vegetation that is being retained. Small trees and other native vegetation in these areas should be carefully preserved.

- Tree stumps that are within the TPZ or immediately adjacent to the Critical Root Zone of a preserved tree or other vegetation shall be removed by grinding.
- A Certified Arborist shall be on site to supervise any root pruning and to assess the potential impact of such pruning when the arborist has determined that the roots of a preserved tree may be encountered during excavation or grading. Any root greater than 1.5" diameter that is encountered shall be carefully cut with a sharp tool. Roots cut shall be immediately covered with soil or mulch and kept moist.
- Any preserved tree shall be protected from soil compaction. Acceptable methods include 18" of wood chips or hog fuel, plywood, or steel sheets.

Post-Construction Mitigation Measures

- Landscaping within the TPZ areas shall be designed to limit disturbance of surface soils and preserved vegetation. No root pruning is permitted. New plants added in these areas should be of the smallest size possible to minimize disturbance.
- Where backfill is required within the Critical Root Zone or TPZ area, the consulting arborist shall determine the amount and type of fill material to be used.
- Supplemental irrigation for all protected trees is required during the summer months or prolonged periods of dry weather.
- Monitoring of all trees, especially those exposed to new environmental conditions such as exposure to wind, sun, or deep shade, should be monitored annually to check for adverse changes to the tree health or stability.

Signature: \_\_\_\_\_ (signature on file) Date: August 13, 2009

Scott Kemp, Senior Land Use Planner  
Department of Planning and Development  
Land Use Services

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